

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2016/2017

BIE2024 – INTERMEDIATE MICROECONOMICS

(Group 1)

15 OCTOBER 2016

9 a.m – 11 a.m

(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **TWELVE (12)** printed pages with:
Section A: Fourty (40) multiple choice questions (40 marks)
Section B: Three (3) structured questions (60 marks)
2. Answer **ALL** questions.
3. Answer **Section A** in the multiple-choice answer sheet and **Section B** in the answer booklet provided.
4. Marks allocations are shown at the end of each question.

SECTION A: MULTIPLE CHOICE QUESTIONS (40 MARKS)

Instruction: Answer all questions in the multiple choice answer sheet.

1. If a firm is a price taker, then its marginal revenue will always equal to
 - A. price.
 - B. total cost.
 - C. zero.
 - D. one.
2. The competitive firm's supply curve is equal to
 - A. its marginal cost curve.
 - B. the portion of its marginal cost curve that lies above AC.
 - C. the portion of its marginal cost curve that lies above AVC.
 - D. the portion of its marginal cost curve that lies above AFC.
3. A firm will shut down in the short run if
 - A. total fixed costs are too high.
 - B. total revenue from operating would not cover all costs.
 - C. total revenue from operating would not cover variable costs.
 - D. total revenue from operating would not cover fixed costs.
4. If a monopoly's Lerner Index exceeds 1, then
 - A. it is earning maximum profit.
 - B. it has ultimate market power.
 - C. it must be pricing below marginal cost.
 - D. marginal revenue is negative.
5. If the inverse demand curve a monopoly faces is $p=100-2Q$, and MC is constant at 16, then the firm's Lerner Index equals
 - A. 58/16.
 - B. 16/42.
 - C. 58/42.
 - D. 42/58.

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Refer to the **Exhibit 1** below to answer the questions 6-7.

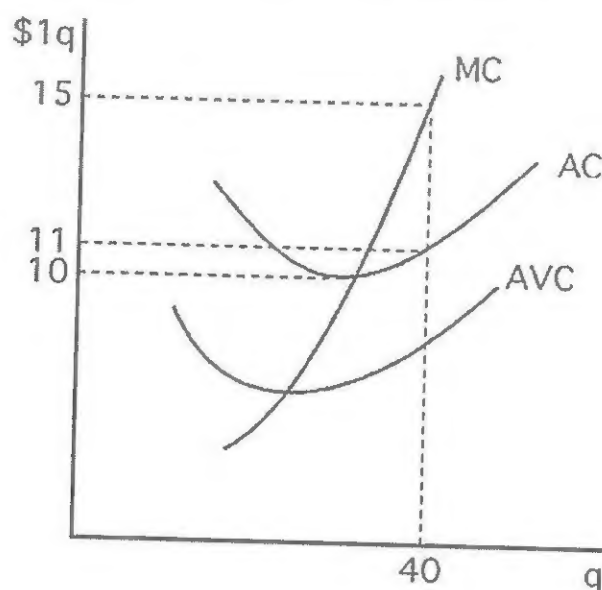


Exhibit 1

6. The **Exhibit 1** shows the cost curves for a competitive firm. If the firm is to operate in the short run, price must exceed
- A. \$0.
 - B. \$5.
 - C. \$10.
 - D. \$11.
7. The **Exhibit 1** shows the cost curves for a competitive firm. If the profit-maximizing level of output is 40, price is equal to
- A. \$0.
 - B. \$15.
 - C. \$10.
 - D. \$11.

Continued...

Refer to the **Exhibit 2** below to answer the questions 8-11.

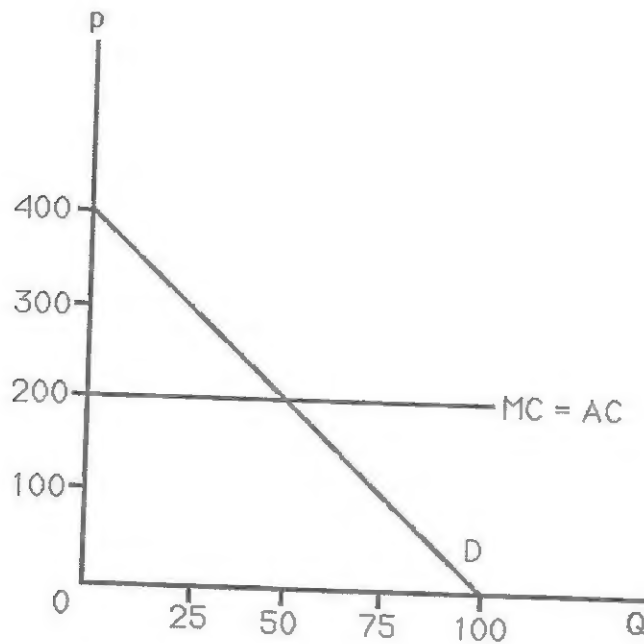


Exhibit 2

8. The **Exhibit 2** shows the demand and cost curves facing a monopoly. The deadweight loss of this monopoly is
- A. \$100.
 - B. \$250.
 - C. \$1,250.
 - D. \$2,500.
9. The **Exhibit 2** shows the demand and cost curves facing a monopoly. A \$100 per unit tax would raise price by
- A. \$100.
 - B. \$50.
 - C. \$25.
 - D. \$0.
10. **Exhibit 2** shows the demand and cost curves facing a monopoly. If a \$100 per unit tax is charged, what is the tax incidence on consumers?
- A. 100%
 - B. 50%
 - C. 25%
 - D. 0%

Continued...

11. The **Exhibit 2** shows the demand and cost curves facing a monopoly. If a \$100 per unit tax is charged, the loss in welfare resulting from the tax is
- A. \$250.
 - B. \$312.50.
 - C. \$1,250.
 - D. \$1,562.50.
12. Suppose a patent is granted for a product that has the linear demand curve $P = a - bQ$. The constant marginal cost of producing this product is \$50 per unit, a unit sells for \$150, and consumers purchase 100 units of the good at that price. If the monopoly is maximizing profit, b equals
- A. 1.
 - B. 1.5.
 - C. 2.
 - D. 2.5.
13. Given the inverse demand curve $P = 60 - Q$, variable costs are Q^2 , its marginal costs are $2Q$, and it has fixed costs of 30. If a governmental agency imposes an \$8 per unit specific tax on output, the deadweight loss from both the monopoly and the tax is
- A. \$37.50.
 - B. \$73.00.
 - C. \$526.50.
 - D. \$562.50.

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Refer to the **Exhibit 3** below to answer the questions 14.

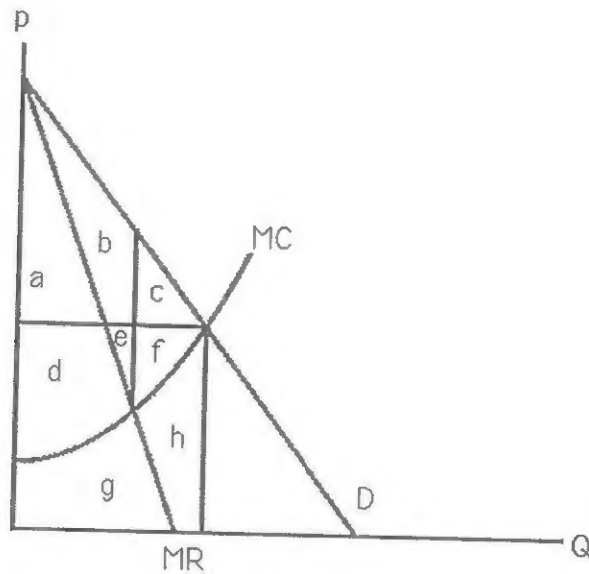


Exhibit 3

14. **Exhibit 3** shows the demand and marginal cost curves for a monopoly. The deadweight loss of this monopoly equals
- h.
 - c.
 - $c + f$.
 - $c + d + e + f$.
15. A monopolist faces the inverse demand curve $P=60-Q$. It has variable costs of Q^2 so that its marginal costs are $2Q$, and it has fixed costs of 30. The monopoly's profit maximizing output is
- 5.
 - 10.
 - 15.
 - 20.
16. Perfect competition and monopolistic competition are similar in that both market structures include
- price-taking behavior by firms.
 - a homogeneous product.
 - no barriers to entry.
 - very few firms.

Continued...

17. Product differentiation
- A. is possibly welfare enhancing if new products match consumer preferences better.
 - B. is welfare reducing even if new products match consumer preferences better.
 - C. is welfare enhancing even if new products do not match consumer preferences better.
 - D. is welfare reducing even if new products do not match consumer preferences better.
18. In the short run, a monopolistic competitor
- A. produces at minimum efficient scale.
 - B. produces where $P = AC$.
 - C. sets $P = MC$.
 - D. sets $MR = MC$.
19. The Bertrand model of price setting assumes that a firm chooses its price
- A. independently of what price other firms charge.
 - B. subject to what price rival firms are charging.
 - C. so that joint profits are maximized.
 - D. without considering the shape of the demand curve.
20. Suppose a monopolistically competitive industry evolved into a perfectly competitive industry. Which of the following statements is correct?
- A. The industry would produce more output and charge a lower price after the change.
 - B. The industry would produce at decreasing returns to scale.
 - C. Elasticity of demand for the firm's product would remain the same after this change occurred.
 - D. This industry would produce the same level of output at lower prices in the long run than before the change.
21. Suppose duopolists face the market inverse demand curve $P=100-Q$, $Q=q_1+q_2$, and both firms have a constant marginal cost of 10. If firm 1 is a Stackelberg leader and firm 2's best response function is $q_2=(100-q_1)/2$, at the Nash-Stackelberg equilibrium firm 1's output is
- A. 30.
 - B. 40.
 - C. 60.
 - D. 70.
22. In the Cournot model, if the products are differentiated,
- A. this reduces the pressure of one firm's decisions on the other.
 - B. this increases the pressure of one firm's decisions on the other.
 - C. there is no difference between this model and one with homogeneous goods.
 - D. marginal costs are necessarily different.

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23. Monopolistic competition and perfect competition differ because
- A. only monopolistically competitive firms will set $MR=MC$.
 - B. only perfectly competitive firms will set $MR=MC$.
 - C. only monopolistic competition allows for entry of other firms in the long run.
 - D. only competitive firms take the price as given.
24. Perfect competition and monopolistic competition are similar in that firms in both types of market structure will
- A. act as price takers.
 - B. produce a level of output where price equals marginal cost.
 - C. earn zero profit in the long run.
 - D. act as price setters.
25. In the short run, the competitive firm will hire more labor if
- A. the wage rate increases.
 - B. the price the firm receives for the output increases.
 - C. the price the firm receives for the output decreases.
 - D. a specific tax is imposed on the output.
26. The amount of labor a firm employs depends on
- A. the market wage.
 - B. the market price for the good produced.
 - C. Both A and B.
 - D. None of the above.
27. Because the labor supply curve for a monopsonist is upward sloping, the monopsonist
- A. hires zero units of labor.
 - B. chooses the perfectly competitive quantity of labor.
 - C. must increase the wage to attract more units of labor.
 - D. must take the wage as given by the market.
28. If a firm buys some labor in a competitive market and some labor as a monopsonist, the firm is most likely to
- A. pay the same wage to both types of labor.
 - B. pay a lower wage to the labor purchased in the competitive market.
 - C. pay a higher wage to the labor purchased in the competitive market.
 - D. not exercise any of its monopsony power.
29. The steeper the labor supply curve,
- A. the higher the wage the monopsonist pays.
 - B. the lower the wage the monopsonist pays.
 - C. the smaller the difference between the wage and the marginal expenditure on labor.
 - D. the better off workers are.

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30. The term *prisoners' dilemma* refers to a game in which
- there are no Nash equilibria.
 - there are no dominant strategies.
 - the payoff from playing the dominant strategy is the same for each player.
 - the payoff from playing the dominant strategy is not the highest payoff possible.
31. Collusion is more likely to occur when
- there is fear of punishment for not colluding.
 - there is a known finite time horizon.
 - there are large gains to be made by cheating on an agreement.
 - the game lasts only one period.

Refer to the **Exhibit 4** below to answer the questions 32.

		Incumbent	
		Stackelberg	Deter
Firm 2	Enter	500 150	450 0
	Do Not Enter	1000 0	900 0

Exhibit 4

32. **Exhibit 4** shows the payoff matrix facing an incumbent firm and a potential entrant. The potential entrant cannot earn a profit if the incumbent
- chooses the Cournot level of output.
 - chooses the Stackelberg leader level of output.
 - shuts down.
 - deters entry.
33. A sub-game perfect Nash equilibrium is defined as
- a set of strategies that are a Nash equilibrium in every subgame of a static game.
 - a set of strategies that are a Nash equilibrium in every subgame of a dynamic game.
 - a set of strategies that are a Nash equilibrium in a single subgame of a dynamic game.
 - the game within the game.

Continued...

34. Which of the following is **NOT** part of solving a game?
- A. Write down all possible combinations of strategies.
 - B. Write down all possible payoffs and eliminate dominated strategies.
 - C. Solve for any Nash Equilibrium.
 - D. None of the above.
35. There are two closely related crops, X and Y, with the following demand functions
 $Q_X = 180 - 2P_X + P_Y$ and $Q_Y = 150 + P_X - P_Y$ where Q_X is the quantity of X, P_X is the price of X, Q_Y is the quantity of Y, and P_Y is the price of Y. These two crops are grown in two widely separated countries so there is no interrelationship between the supply curves. The short-run perfectly inelastic supply for X is 150 while the short-run perfectly inelastic supply for Y is 100. In equilibrium, the prices are
- A. $P_X = 80, P_Y = 130$
 - B. $P_X = 40, P_Y = 65$
 - C. $P_X = 60, P_Y = 120$
 - D. $P_X = 30, P_Y = 80$
36. General equilibrium analysis is the study of
- A. how an equilibrium is determined in all markets simultaneously.
 - B. how an equilibrium is determined in all closely related markets.
 - C. the effects of a change in a market, and all spillover effects in all related markets.
 - D. Any of the above.
37. The general equilibrium analysis of a minimum wage applied to only some sectors of the economy suggests that
- A. workers in all sectors will face increased wages.
 - B. some workers in the covered sectors will lose their jobs and remain unemployed.
 - C. some workers originally employed in the covered sectors will move to the uncovered sectors, driving down wages in the uncovered sectors.
 - D. all workers will be worse off.
38. When comparing partial equilibrium effects to general equilibrium effects one can conclude that
- A. general equilibrium effects are always larger.
 - B. partial equilibrium effects are always larger.
 - C. the effects are of equal size.
 - D. one cannot determine before the fact which effect is greater.

Continued...

39. If two or more markets are closely related,
- A. a partial equilibrium analysis will tend to overstate the price impact of a supply shock.
 - B. a partial equilibrium analysis will tend to accurately predict the price impact of a supply shock.
 - C. a partial equilibrium analysis will tend to understate the price impact of a supply shock.
 - D. they should be analyzed concurrently but using partial equilibrium analysis alone.
40. The saying "what's that got to do with the price of tea?" reflects
- A. two markets where general equilibrium analysis would be most useful.
 - B. two markets where general equilibrium analysis likely won't be very useful.
 - C. two markets where the products are clearly closely related.
 - D. two markets where firms are incredibly greedy.

SECTION B: STRUCTURED QUESTIONS (60 MARKS)

Instruction: Answer all questions in the answer booklet provided.

Question 1 (25 marks)

- (a) Suppose a monopolist has $TC=100+10Q+2Q^2$, and the demand curve it faces is $p=90-2Q$.
- (i) What will be the quantity for this firm? (4 marks)
 - (ii) What will be the price for this firm? (3 marks)
 - (iii) What is the profit for this firm? (6 marks)
- (b) Suppose that market demand for a good is $Q=480-2p$. The marginal cost is $MC=2Q$.
- (i) Solve for the competitive equilibrium. (6 marks)
 - (ii) Calculate the deadweight loss resulting from a monopoly in this market. (6 marks)

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Question 2 (15 marks)

You and a competitor are selling t-shirts with the college logo at a table on campus. You must decide whether to sell your t-shirts for \$15 each or \$20 each. The profit you receive will depend on how you decide to charge and how much your competitor decides to charge. The payoff matrix for the decision is given as **Exhibit 5** below.

		You	
		\$15	\$20
Your Competitor	\$15	\$200 each	You: 0 Competitor: \$400
	\$20	You: \$400 Competitor: 0	\$300 each

Exhibit 5

- If \$15 and \$20 are the only two price choices, what are the dominant strategies for you and your competitor? (5 marks)
- Is there an equilibrium? If so, what is it? (5 marks)
- If each firm knows that cutting price a little further from \$15 has the same effect as cutting if from \$20 to \$15, what will price equal to in the end? Explain your argument. (5 marks)

Question 3 (20 marks)

The Edgeworth box diagram (**Exhibit 6**) can be used to show how a production possibility frontier is constructed for an economy as a whole. Suppose there are only two goods that might be produced (X and Y), each using two inputs, capital (K) and labour (L). Here, consider the lower-left (upper-right) corner of the box to be origin for the isoquant map for good X (Y).

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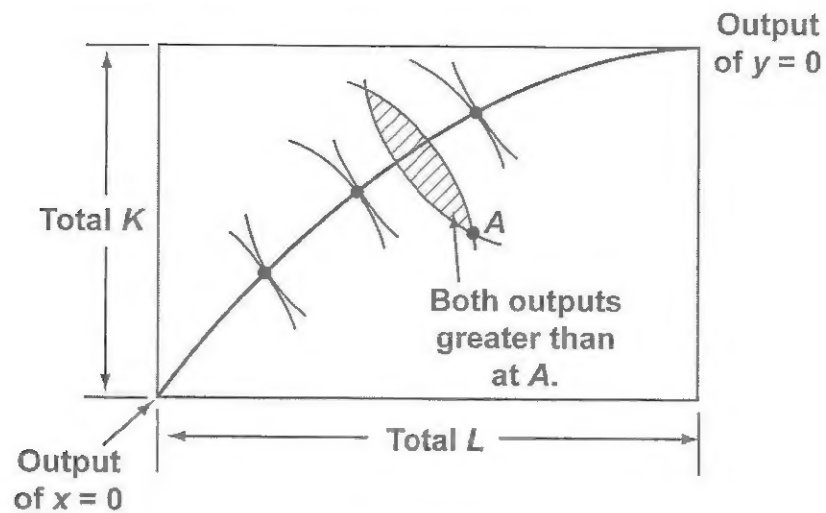


Exhibit 6

- (a) What are the efficient points in the Edgeworth box diagram (**Exhibit 6**)? Elaborate. (10 marks)
- (b) Use the connection between your box diagram in part (a) and the production possibility frontier to discuss what the frontier would like in the following cases:
- Production of good X uses only labor, production of good Y uses only capital. (5 marks)
 - Both X and Y have the same production function and both exhibit constant returns to scale. (5 marks)

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